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| 09/982,406  | 10/17/2001  | John M. White        | 6199/DISPLAY/AKT/BG | 6829             |
| 32588   | 7590        | 04/21/2006           | EXAMINER            |                  |
| APPLIED MATERIALS, INC.<br>2881 SCOTT BLVD. M/S 2061<br>SANTA CLARA, CA 95050 |             |                      | KEENAN, JAMES W     |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 3652                |                  |

DATE MAILED: 04/21/2006

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**GROUP 3600**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/982,406  
Filing Date: October 17, 2001  
Appellant(s): WHITE ET AL.

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Keith Tackett  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 1/20/06 appealing from the Office action  
mailed 8/16/05.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct. The filing date of the amendment after-final which was entered was 10/14/05.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

### **GROUND OF REJECTION NOT ON REVIEW**

The following grounds of rejection have not been withdrawn by the examiner, but they are not under review on appeal because they have not been presented for review in the appellant's brief.

Toshio (JP 2000-353737) in view of Young (US 6,677,594) for claims 17-19.

Toshio in view of Kroeker et al (US 5,955,858) for claims 20-21.

Toshio in view of Young, Hansson et al (US 4,621,936), and Kroeker et al for claims 49-50.

Toshio in view of Masciarelli (US 4,706,793) for claim 52.

Toshio in view of Young, Hansson et al, and Masciarelli for claim 48.

Okayama (JP 2-121347) in view of Young (or vice versa), and further in view of Kroeker et al for claims 20-21.

Okayama (JP 2-121347) in view of Young (or vice versa) and Hansson et al, and further in view of Kroeker et al for claims 49-50.

Okayama (JP 2-121347) in view of Young (or vice versa), and further in view of Masciarelli for claim 52.

Okayama (JP 2-121347) in view of Young (or vice versa) and Hansson et al, and further in view of Masciarelli for claim 48.

### **(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

|                |               |         |
|----------------|---------------|---------|
| JP 2000-353737 | Toshio        | 12-2000 |
| JP 2-121347    | Okayama       | 5-1990  |
| US 6,677,594   | Young         | 1-2004  |
| US 4,621,936   | Hansson et al | 11-1986 |

Attached in an Examiner's Evidence Appendix are copies of the Toshio and Okayama references and corresponding English language translations thereof.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 8 and 15 are rejected under 35 U.S.C. 102(a) as being anticipated by Toshio.

Toshio shows an apparatus for supporting a substrate in a chamber with an access port (not explicitly shown, but the device is disclosed for use in a heat treating oven which would inherently have a port), including support member 3 having disposed thereon substrate supports comprised of sockets 11 each with a support surface for balls 9 which contact and support the substrate in a spaced-apart relation to the support member. The sockets have a "formed end" (fig. 3) which, at least to some extent, retains the ball therein, as broadly claimed.

Claims 14, 47, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toshio in view of Young and Hansson et al.

Toshio does not disclose the surface roughness of the balls.

Young discloses a similar substrate support for use in a chamber comprising spherical projections 10 which have a low but unspecified coefficient of friction.

Hansson et al teach the roughness of rolling balls in a socket to be in a range including 4 micro-inches.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Toshio such that the surface roughness of the balls was 4 micro-inches or smoother, as jointly suggested by Young and Hansson et al, as this would simply be the use of a specific and well known low friction surface roughness of rolling balls. Note that the Hansson et al reference is not to be construed as explicitly suggesting a specific surface roughness for use in substrate supports, but simply that the use of rolling balls with this particular surface roughness is well known. It is the Young reference which is relied upon to teach the general desirability of a low friction substrate support.

Claims 8, 15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okayama in view of Young, or alternatively, over Young in view of Okayama.

Okayama shows a substrate support essentially as claimed (see esp. fig. 3a), including ball 7, socket 10, etc., wherein the socket has a formed end which clearly has at least some capability of retaining the ball therein, as broadly claimed. However, as best understood, the support is not disclosed for use in a chamber.

Young, as noted above, shows a substrate support used in a chamber, but the support is not a ball in a socket.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Okayama by utilizing the support in a chamber, as shown by Young, as this would simply be the use of a well known type of support in a processing chamber.

Alternatively, it would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Young by replacing the spherical projections thereof with balls, as shown by Okayama, as this would simply be an art recognized alternate equivalent means of supporting substrates with a low friction surface.

Re claims 17-19, note in figure 4 of Young that projection 10A is disposed on the center line of the substrate, and thus supports a "center portion" thereof, as broadly claimed, while projections 10B, 10C support the perimeter portion.

Claims 14, 47, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okayama in view of Young, or vice-versa, as applied to claim 8 above, and further in view of Hansson et al.

The Okayama/Young apparatus as modified does not disclose the surface roughness of the balls to be 4 micro-inches or smoother. However, Young does teach the desirability of low friction support members, as noted above.

Hansson et al, as noted above, shows the roughness of rolling balls in a socket to be in a range including 4 micro-inches.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Okayama/Young such that the surface roughness of the balls was 4 micro-inches or smoother, as suggested by Hansson et al, as this would simply be the use of a specific and well known low friction surface roughness of rolling balls.

#### **(10) Response to Argument**

Appellant argues that although Toshio has sidewalls to provide lateral support, there are no formed ends to retain the ball in the socket, and thus “adhesion of the ball to the substrate ... would lift the ball out of the top plate”.

This is not persuasive. The sidewalls of Toshio are the formed ends, and they do, at least to some extent, retain the balls in the socket. There are simply no structural claim limitations which define over this interpretation. Appellant’s comment regarding adhesion potentially lifting the ball out of the socket is clearly beyond the scope of the claims, which make no mention whatsoever of these issues. The formed ends as claimed are not limited to retaining the ball in any particular manner or direction.

Although appellant argues claims 14, 47, and 51 separately, no new arguments are presented. Rather, appellant merely states that the combination of references fail to show all recited features of the claims.

Similarly, appellant’s arguments concerning the Okayama/Young/Hansson et al combination merely assert that the features recited in the claims are not shown or suggested by the proposed combination of references, without formally addressing the



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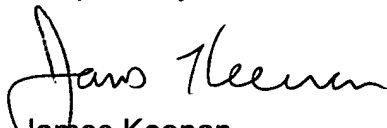
propriety of the obviousness rationale set forth in the rejection. Therefore, no further comments are deemed necessary.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  
James Keenan

Conferees:

EL 

DU 

jwk

3/29/06

Attachments: Examiner's Evidence Appendix

### Examiner's Evidence Appendix

Toshio reference and English language translation

Okayama reference and English language translation